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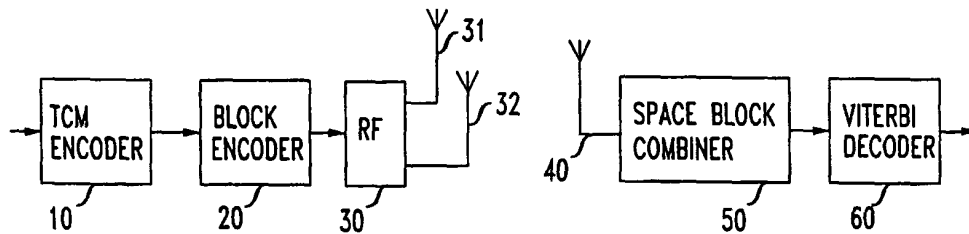
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(54) Title: MAXIMUM LIKELIHOOD DETECTION OF CONCATENATED SPACE-TIME CODES FOR WIRELESS APPLICATIONS WITH TRANSMITTER DIVERSITY



(57) Abstract

Good transmission characteristics are achieved in the presence of fading with a transmitter that employs a trellis coder followed by a block coder. Correspondingly, the receiver comprises a Viterbi decoder followed by a block decoder. Advantageously, the block coder and decoder employ time-space diversity coding which, illustratively, employs two transmitter antennas and one receiver antenna.

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INTERNATIONAL SEARCH REPORT

International Application No PCT/US 98/21959		
A. CLASSIFICATION OF SUBJECT MATTER IPC 6 H04B7/06 H04L1/00 H04L25/03 H04L1/06		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 6 H04B H03M H04L		
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C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SESHADRI N ET AL: "SPACE-TIME CODES FOR WIRELESS COMMUNICATION: CODE CONSTRUCTION" 1997 IEEE 47TH. VEHICULAR TECHNOLOGY CONFERENCE, PHOENIX, MAY 4 - 7, 1997, vol. 2, no. CONF. 47, 4 May 1997, pages 637-641, XP000736685 INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, New York, USA. see abstract see page 637, left-hand column, paragraph 3 - paragraph 4 section 2 section 3 section 4 <div style="text-align: center; margin-top: 20px;"> --- -/-- </div>	1,2,6,7
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Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer <div style="text-align: center;">Langinieux, F</div>

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International Application No

PCT/US 98/21959

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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X	<p>SESHADRI N ET AL: "ADVANCED TECHNIQUES FOR MODULATION, ERROR CORRECTION, CHANNEL EQUALIZATION, AND DIVERSITY" AT & T TECHNICAL JOURNAL, vol. 72, no. 4, 1 July 1993, pages 48-63, XP000415859 page 57, section "Diversity using multiple transmit antennas" see page 58, last paragraph</p>	1,2,6,7
P,X	<p>ALAMOUTI S M: "A simple transmit diversity technique for wireless communications" IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, OCT. 1998, IEEE, USA, vol. 16, no. 8, pages 1451-1458, XP002100058 ISSN 0733-8716 the whole document</p>	1-17
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A	<p>WO 97 24849 A (ERICSSON GE MOBILE INC) 10 July 1997 see abstract see figure 2 see page 1, line 22 - page 2, line 25 see page 5, line 26 - line 28 see page 12, line 18 - page 13, line 1 see page 13, line 14 - line 15 see page 14, line 24 - page 15, line 6</p>	1-13

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	TAROKH V ET AL: "SPACE-TIME CODES FOR HIGH DATA RATE WIRELESS COMMUNICATION: PERFORMANCE CRITERIA" 1997 IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS, MONTREAL, JUNE 8 - 12, 1997, vol. 1, 8 June 1997, pages 299-303, XP000740249 INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, New York, USA. see abstract -----	1,2,6
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